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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,109	01/19/2006	Tomohiro Yabu	4633.0157PUS1	5480
2292 7590 12/17/2008 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER				
ALL MOHAMMAD M				
ART UNIT		PAPER NUMBER		
3744				
NOTIFICATION DATE		DELIVERY MODE		
12/17/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

### Office Action Summary

**Application No.**

10/565,109

**Applicant(s)**

YABU ET AL.

**Examiner**

MOHAMMAD M. ALI

**Art Unit**

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SG/US)  
Paper No(s)/Mail Date 10/28/08
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 102***

0The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Boku et al., (JP 2001-241693 A). Boku et al., disclose a humidity control system including an adsorber for controlling humidity of air to be processed using an adsorbent. 32/42 and a refrigerant circuit 20 for operating on a refrigeration cycle and thermally regenerates the adsorber at moisture desorption section 33/45 with heat of refrigerant in the refrigerant circuit 20 and having the refrigerant flowing therethrough; wherein the adsorber (absorbing capacity) is formed by adsorption heat exchangers (30) connected to the refrigerant circuit ((20) and having an adsorbent carried on their surfaces (22, 33)/(42, 45) and the humidity control system is configured so that the sensible heat zone of the refrigerant is larger than that for R22 when compared in terms of refrigerant cycle having substantially the same discharge temperature being a functional recitation for the behaving function of some refrigerant. The CO2 being one of a refrigerant inherently shows the claimed behavior of sensible heat zone (R) for CO2 refrigerant is larger than for R22 when compared in terms of refrigeration cycle. Therefore, Boku et al., having CO2 refrigerant meet the claimed invention. See Fig.1-7 and the enclosed translation. Regarding claim 2, 6 and 10, as Boku et al., disclose CO2 refrigerant, CO2 refrigerant circuit inherently shows that the pressure of the refrigerant in the high

pressure side of the refrigeration cycle is higher than the critical pressure of the refrigerant. Regarding claims 3, 7 and 11, the single refrigerant of R32 or mixed refrigerant containing R32 in the range from 75 weight % inclusive to 100 weight % exclusive, Boku et al's humidity control system is using CO<sub>2</sub> refrigerant and also capable of using any type of refrigerant including the single refrigerant or a mixed refrigerant as disclosed in claims 3, 7 and 11; regarding claim 5, Boku et al., disclose first the adsorber is composed of a first adsorption element (32 in Fig. 5)/(42 in Fig. 4 which) absorbs moisture in a first air (RA) and second adsorption element (33 in Fig. 5)/(45 in Fig. 4) which is generated by heating with a second air ((OA) heated by the refrigerant element with radiator (22) in a first behavior and a second behavior which second adsorption element (33 in Fig.5) adsorbs moisture in the first air (RA) and the first adsorption element (32 in Fig.5) is regenerated by heating with the second air (OA) heated up by the refrigerant by alternately switching between the first and second behavior as the gas conditioning device (30 in Fig.5) is taking reverse position by rotation in its own axis and similar is the case for Fig. 4 by reversing the refrigerant flow direction as may be case of a heat pump refrigerant system or by changing the position of (42) and (45) similar to Fig. 5.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boku et. al. R32 refrigerant being a well known in the art is an obvious implementation in place of CO2 refrigerant and the refrigerant circuit of Boku et al. is capable of being served by R32 refrigerant.

***Response to Arguments***

Applicant's arguments filed 09/17/08 have been fully considered but they are not persuasive. The Applicant argues that the applied reference fails to teach or suggest the recited features of independent claim mentioning that the adsorption means 30 of Boku are not connected to the refrigerant circuit 20. The Examiner disagrees. The refrigerant passing through refrigerant circuit 20 and adsorption means 30 of Boku et al. are the integral part of an air conditioning system 10. The refrigerant circuit 20 is actively working for the adsorption means 30 so that the adsorption means can be regenerated by the active action of the refrigerant circuit 20. The refrigerant circuit 20 heats the air (OA) passing through pipe/duct 62 connected to the refrigerant circuit 20 through a heat exchanger 22 which is a part of the refrigerant circuit 20. Thus the heat exchanger circuit 20 is connected with heat exchanger which connected with duct 62 which connected the absorption and desorption/regeneration sections of adsorption means 30 disposed beside (on the surface) of the refrigerant circuit 20.

Therefore, that the adsorption means 30 of Boku are not connected to the refrigerant circuit 20 is not correct and thus rejections are ok.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad M. Ali whose telephone number is 571-272-4806. The examiner can normally be reached on maxiflex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl J. Tyler can be reached on 571-272-4808. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mohammad M Ali/  
Primary Examiner, Art Unit 3744